

# PATENT SPECIFICATION

310,394



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Complete Accepted: April 24, 1929.

## PROVISIONAL SPECIFICATION.

### Improvements in Conveyor Belts.

I, HARRY EWART PARTRIDGE, a Subject of the King of Great Britain, of 48, Castlecroft Road, Finchfield, Wolverhampton, in the County of Stafford, do hereby declare the nature of this invention to be as follows:—

This invention relates to conveyor belts and has for its object to provide a generally improved construction.  
One of the features of the present invention is to provide the conveyor belt with transverse corrugations such corrugations enabling the belt to obtain a better hold on material to be conveyed, also increasing the carrying capacity when compared with a flat surface, and also allowing the belt to stretch longitudinally if required, and assuming that the belt is made of elastic material allowing the belt to be flattened if required.

The transverse corrugations in the belt may be formed in the material and may extend across the centre part of the belt only, corrugations tapering away towards the edges of the belt where they disappear.

Such an arrangement enables the belt if required to be distorted by suitable appliances into channel form for a portion of its length thus making it capable of holding liquid and further, that

portion of the belt which is of channel form may be passed over rollers or guide pulleys without difficulty owing to the fact that the centre portion of the belt can stretch longitudinally and thus compensate for the difference in radius between the centre portion and the edge portions when passing over the pulley or roller.

The edges of the belt may be beaded and if required these beaded edges may be reinforced by means of wires or other materials.

The belt may be made partly or wholly of india rubber which may be reinforced by fabric or by metal gauze or by other material or asbestos may be used in conjunction with a metal gauze or other suitable reinforcement.

A belt constructed in accordance with this invention is particularly useful in connection with the conveyor apparatus described in my concurrent Application No. 2221, of 1928 (Serial No. 310,348). Dated the 19th day of January, 1928.

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## COMPLETE SPECIFICATION.

### Improvements in Conveyor Belts.

I, HARRY EWART PARTRIDGE, a Subject of the King of Great Britain, of 48, Castlecroft Road, Finchfield, Wolverhampton, in the County of Stafford, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to conveyor belts and refers more particularly to such belts which are provided with transverse corrugations or ribs so as to enable a better hold to be obtained on the material to be conveyed.

The object of the present invention is to provide a construction of belt of the above class which can be more easily distorted into trough or channel cross section than those constructed hitherto.

In accordance with one part of the present invention I provide a conveyor belt adapted to be distorted into trough or channel shape in cross section, which has transverse ribs or corrugations the ends of which are of tapering form, and are spaced from the edges of the belt.

According to a further part of the invention ribs or corrugations are provided which extend transversely across

the belt between the bending lines, and other transverse ribs or corrugations are provided which are disposed on those portions of the belt which are outside the 5 bending lines.

In such an arrangement the centre corrugations may project upwardly while the side corrugations project downwardly.

The foregoing arrangements enable the 10 belt if required to be distorted by suitable appliances into channel form for a portion of its length thus making it capable of holding liquid, and, further, that portion of the belt which is of channel 15 form may be passed under rollers or guide pulleys without difficulty owing to the fact that the centre portion of the belt can stretch longitudinally and thus compensate for the difference in radius 20 between the centre portion and the edge 25 portions when passing under the pulley or roller.

The edges of the belt may be beaded and if required these beaded edges may 25 be reinforced by means of wires or other materials.

The belt may be made partly or wholly of india rubber which may be reinforced by fabric or by metal gauze or by other 30 material or asbestos may be used in conjunction with a metal gauze or other suitable reinforcement.

In order that my invention may be clearly understood and more readily 35 carried into practice, I have appended hereunto one sheet of drawings illustrating the same, wherein:—

Figure 1 is a perspective view showing one form of the invention.

40 Figure 2 is a sectional view on line 2—2 of Figure 1.

Figure 3 is a perspective view showing the belt folded into channel shape.

45 Figure 4 is a transverse section of the belt when folded into channel shape.

Figure 5 is a perspective view showing a further form of the belt.

In the construction illustrated the belt consists of a band 1 having beaded edges 50 2, the beads 2 projecting upwardly from the surface of the band 1.

The centre part 3 of the band 1 is provided with a series of spaced transverse corrugations 4 formed by moulding or 55 otherwise constructing this part of the belt with upwardly projecting inverted channel section ribs. In cross section these ribs may be part circular.

Each of the side portions 5 of the belt 60 is provided with a series of corrugations 6 formed as downwardly projecting channel section ribs. The corrugations 6 preferably taper away before they reach the beaded edges 2.

65 The belt is preferably made of elastic

material which may be suitably reinforced if desired.

The corrugations 4 serve the double purpose of allowing the centre part of the belt to elongate when required and also 70 enable it to obtain a better hold of the material to be conveyed.

Instead of forming the corrugations 4 or the corrugations 6 integrally in the material by making such corrugations 75 hollow the corrugations 4 or the corrugations 6 may be formed by vulcanising or otherwise securing strips of rubber or material to a flat belt.

In the construction shown in Figure 5 80 the belt is made preferably of elastic material and is formed with corrugations 7, each corrugation being of constant width across the centre part of the belt but terminating in tapering end portions 85 8 spaced from the edges of the belt. The extreme edges of the belt are beaded as shown at 9.

The corrugations 7, 8 are preferably 90 of hollow form, i.e. the thickness of the material of the belt is substantially constant.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is 95 to be performed, I declare that what I claim is:—

1. A conveyor belt adapted to be bent at the edges so as to form the belt into a channel, wherein ribs or corrugations are 100 provided which extend transversely across the belt between the bending lines, and other transverse ribs or corrugations are provided which are disposed on those portions of the belt which are outside the 105 bending lines.

2. A conveyor belt adapted to be distorted into channel shape in cross section and having transverse ribs or corrugations the ends of which are of tapering form, 110 and are spaced from the edges of the belt.

3. A conveyor belt according to claim 1 or 2, comprising a band of elastic material having the transverse corrugations or ribs formed of hollow section.

4. A conveyor belt according to claim 1, wherein the corrugations or ribs on the side portions of the belt are of tapering form.

5. A conveyor belt according to claim 1, having the transverse corrugations or ribs along the centre part of the belt projecting upwardly therefrom, and the transverse corrugations or ribs on the side portions of the belt projecting downwardly therefrom.

6. Conveyor belts substantially as described with reference to the accompanying drawings, with or without the modifications referred to.

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Dated the 17th day of September, 1928.

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[This Drawing is a reproduction of the Original on a reduced scale]

FIG. 1.

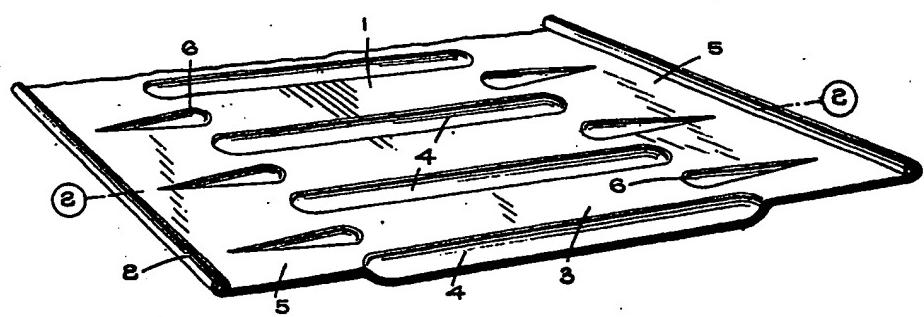


FIG. 2.

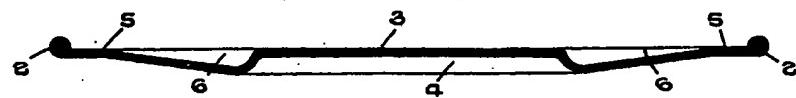


FIG. 3.

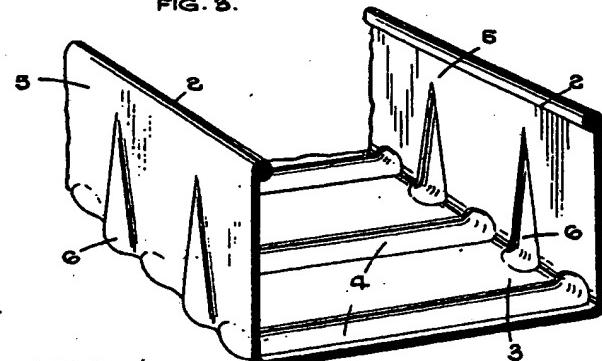


FIG. 5.

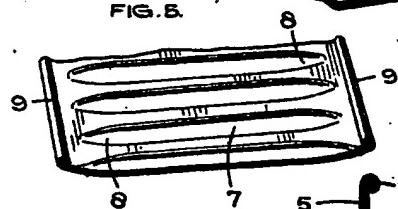
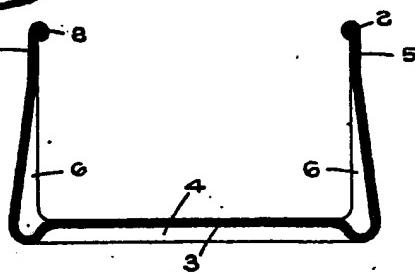


FIG. 4.



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